

(43) International Publication Date
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number
WO 2005/017640 A3

(51) International Patent Classification⁷: **H04Q 7/36**, 7/34, H04B 7/005, H04L 1/20, 27/32, H04M 11/06

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(21) International Application Number: PCT/CA2004/001459

(22) International Filing Date: 12 August 2004 (12.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 2,437,927 14 August 2003 (14.08.2003) CA

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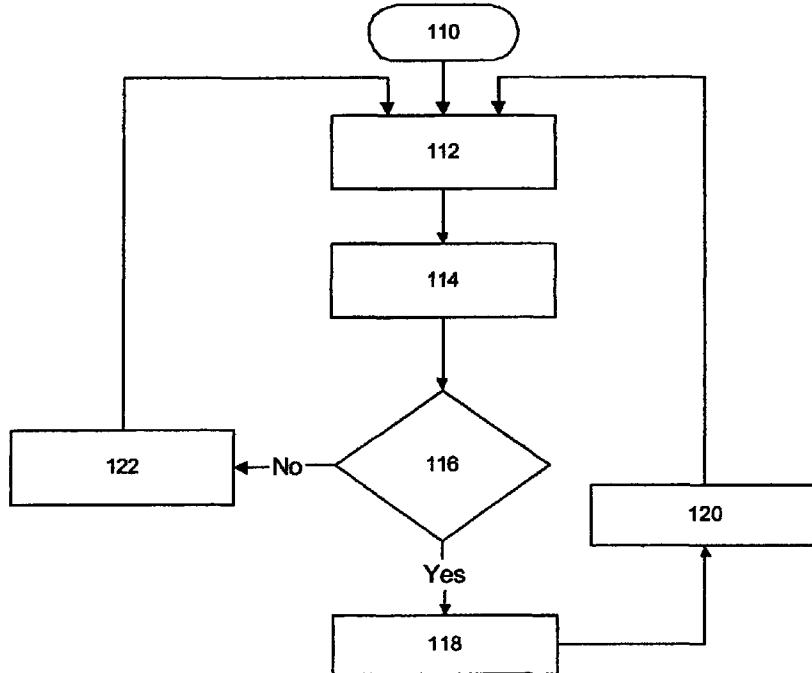
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(74) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(81) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ADAPTIVE CODING FOR A SHARED DATA COMMUNICATION CHANNEL



(57) **Abstract:** A method, system and apparatus for determining a block format to be used to transmit a block of data over a channel to a receiver by collecting a series of reception-quality measurements, determining the rate of change of the reception-quality or the rate at which retransmission requests are being made, and, depending upon the magnitude of the rate of change or the rate of retransmission requests, either: averaging the lowest portion of the reception-quality measurements during the time-series and determining the block format based upon the average; or determining the block format based upon the most recent reception-quality measurements.

WO 2005/017640 A3

**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

2 June 2005

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2004/001459

A. CLASSIFICATION OF SUBJECT MATTER

IPC⁷: H04Q-7/36, H04Q-7/34, H04B-7/005, H04L-1/20, H04L-27/32, H04M-11/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC⁷: H04Q, H04L, H04M, H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database(s) consulted during the international search (name of database(s) and, where practicable, search terms used)

Delphion, Canadian database, Esp@cnet, IEEEExplore, internet search: adaptive, link, coding, reception, quality, fading, channel, wireless, measurement, average, quantization, transmit control bits, and equivalent terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No(s).
X	US5764699 9 June 1998 (09-06-1998) Needham et al.	11, 15, 25
Y	*whole document	1-10, 12-14, 16-24, 26-40
Y	EP0964540 A2 15 December 1999 (15-12-1999) Anandakumar et al. *abstract *paragraphs [0011], [0015], [0017], [0023]	10, 12, 19, 22, 28, 34, 40
A	US6215827 10 April 2001 (10-04-2001) Balachandran et al. abstract *col 7 lines 54-65 *col 15 lines 29-64	1-40
A	US2003/0126536 A1 3 July 2003 (03-07-2003) Gollamudi et al. *whole document	1-40

Further documents are listed in the continuation of Box C.

See patent family annex.

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 "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
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Date of the actual completion of the international search
21 March 2005 (21-03-2005)

Date of mailing of the international search report
07 April 2005 (07-04-2005)

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Facsimile No: 001(819)953-2476

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/CA2004/001459

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
US5764699	09-06-1998	none	
EP0964540	15-12-1999	US6421527 B1	16-07-2002
US6215827	10-04-2001	AU2121799 A BR9915302 A CA2244428 A1 CA2263060 A1 CN1154391C C EP0899906 A2 EP0944201 A2 JP3441379B2 JP11313040 A US6108374 A	30-09-1999 24-07-2001 24-02-1999 19-09-1999 16-06-2004 03-03-1999 22-09-1999 02-09-2003 09-11-1999 22-08-2000
US2003126536	03-07-2003	none	